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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Part 2 of the) ET Docket No. 97-214
Commission's Rules to Allocate the)
455-456 MHz, and 459-460 MHz Bands)
to the Mobile-Satellite Service)

To: The Commission

COMMENTS OF
MOBILE TELECOMMUNICATION TECHNOLOGIES CORP.

Mobile Telecommunication Technologies Corp. ("Mtel"), by its attorneys and pursuant to Sections 1.415 and 1.419 of the Commission's Rules, respectfully submits its comments in response to the Commission's Notice of Proposed Rulemaking ("Notice") in the captioned proceeding.^{1/} In support, the following is shown:

I. Introduction

1. In its Notice the Commission proposes to amend Part 2 of the Commission's Rules to allocate the 455-456 MHz and 459-460 MHz bands to the Mobile Satellite Service (Earth-to-space) ("MSS uplinks") on a co-primary basis for non-voice, non-geostationary mobile satellite services ("NVNGMSS").^{2/} Unfortunately, as the Commission recognized in its Notice, the 459-460 MHz band is already allocated to fixed and land mobile services on a primary

^{1/} The Notice was released on October 14, 1997 and published in the Federal Register at 62 Fed. Reg. 58932 on October 31, 1997. In the Notice, the Commission requested that comments be filed on or before 30 days after publication in the Federal Register, and that reply comments be filed on or before 45 days after publication in the Federal Register. Accordingly, these comments are timely filed.

^{2/} This service is also referred to as the "Little LEO" satellite service.

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basis. It is primarily used for Part 22 services such as the Basic Exchange Telephone Radio Service ("BETRS"), Public Land Mobile one-way or two way operations (paired with the 454 MHz band), the air-to-ground public radio telephone service,^{3/} rural radio services, as well as for Part 90 petroleum radio services and Part 80 maritime mobile services. See, Notice at para 5.

2. The Commission seeks comment on whether there is sufficient spectrum sharing capacity in these bands to support the proposed allocation for Little LEOs and whether there are techniques available that would permit Little LEOs to share this spectrum without causing harmful interference to or constraining development of incumbent operations. See, Notice at para. 11. Further, the Commission specifically seeks comment on whether certain portions of the 459-460 MHz band should not be allocated to Little LEO operations. See, Notice at para. 13.

II. Mtel's Statement of Interest

3. Mtel is a licensed provider of air-ground radiotelephone service in the 454-459 MHz band at numerous locations throughout the United States. It thus has a direct and distinct interest in the subject of the Notice and in the continued vitality of the air-ground service which would face unnecessary interference and substantial degradation in the quality of communication services

^{3/} There are 13 airborne mobile channels in the 459.665-459.985 MHz band which are used for the provision of radiotelephone service to airborne mobile subscribers in general aviation aircraft. See, 47 C.F.R. §§ 22.805 and 22.809.

should the Commission allocate any further co-primary operations in this already congested spectrum.

III. Summary of Mtel's Position

4. Mtel strongly opposes the proposed reallocation of the 455-456 MHz and 459-460 MHz bands, for several reasons. There simply is no further room for spectrum sharing capacity in the 459-460 MHz band. Moreover, the air-ground service for the general aviation industry is a service where there is increasing demand and a need for a high degree of reliability -- both of which factors argue against reallocation. There is also a substantial investment, both on the part of carriers such as Mtel and subscribers, in equipment for general aviation air-ground service and there are no currently available cost efficient alternatives for this service.

5. The Notice fails to adequately recognize and take into consideration the dynamics of the current sharing arrangement in these bands and how an additional service allocation would cause unnecessary interference to existing services. The Commission has not shown how such spectrum sharing with Little LEO systems is even technologically feasible. The Commission has not quantified any need for this spectrum for Little LEOs, explained why this spectrum would make any difference for Little LEOs or compared the utility of reallocating this spectrum with allocating other spectrum for this service. Finally, the Commission has not explained in any meaningful way how incumbent licensees would be made whole for

their reduced spectrum rights associated with grant of the proposed allocation. These reasons are addressed in more detail below.

IV. Argument

A. Existing and Future Demand for Air-Ground Service Preclude Any Encroachment Into Its Frequency Band

6. General aviation air-ground service is a public radio service between a ground station base station communicating on 454.700-454.975 MHz and airborne mobile stations communicating on 459.700-459.975 MHz, generally serving private or commercial non-carrier aircraft. In creating the air-ground service, the Commission established the goal of encouraging the provision of nationwide service utilizing the minimum amount of spectrum necessary. The Commission recognized that its allocation of 12 air-ground channels would permit nationwide service if the channels were used in sufficiently separate geographic areas. See Air-Ground Service, 22 FCC 2d 716 (1969). However, the Commission subsequently determined that the steady increase in use of air-ground service and the demand for that service among airliner passengers warranted the provision of additional spectrum in the 800 MHz band to provide radiotelephone service to commercial air carrier passengers.^{4/} See Report and Order, 5 FCC Rcd 3861 (1990) and Memorandum Opinion and Order of Reconsideration, 6 FCC Rcd 4582 (1991). Indeed, the growth of air-ground traffic is readily

^{4/} Of course this additional spectrum failed to alleviate the heavy amount of radio traffic transmitted in the 454-459 MHz band to and from private, as opposed to airliner, aircraft.

evidenced by the huge demand for telephone service on both commercial airliners and non-commercial aircraft.^{5/} Mtel's experience as a major provider of general aviation air-ground service has shown a steady growth in the utilization of the 454-459 MHz band frequencies by its customers each year. And Mtel expects that demand to increase given the demands of business is requiring more travel among personnel, which in turn further increases dependency on such communications services as the general aviation air-ground service.

7. Further, the Commission may take official notice of its records which reflect that there are multiple applicants each time an opening for a new 454-459 MHz air-ground facility occurs. This, in and of itself, indicates that air-ground spectrum has not lain fallow, and that such spectrum should not be made available to another service. By its very nature, the Commission's proposal to provide co-primary status between air-ground and Little LEO systems would decrease the available spectrum for existing and future air-ground needs. Where, as here, the supply of frequencies is already tight, creating even greater scarcity can only harm the users of the air-ground service.

**B. Interference Considerations Require Denial
of the Commission's Proposal**

^{5/} The National Business Aircraft Association has previously indicated that its members and other operators of private aircraft have installed on airplanes and helicopters approximately 13,000 air-ground radiotelephone units which are linked to approximately 83 domestic ground stations.

8. The Commission recognizes that the issue of spectrum sharing between Little LEO operations and incumbent operations in the 455-456 MHz and 459-460 MHz bands are complex. See, Notice at para. 15. This recognition and the lack of appropriate analysis of harmful interference suggest that the Commission's proposal is misplaced, or at least premature.^{6/} As indicated above, the frequency bands at issue are already heavily utilized by commercial operators and the addition of further operations can only lead to harmful interference to these existing services including air-ground traffic.

9. Due to the very nature of air-ground communications, it may be difficult to maintain proper levels of separation or otherwise attempt to reduce or eliminate the potential for harmful interference because of the problems posed by moving aircraft. Due to the vast expanse of the country, aircraft spend the bulk of their time over rural areas in transit from one city to the next. Even if adequate separation is maintained between air-ground base stations and Little LEO uplink facilities, there is no way to control separation between aircraft themselves and Little LEO uplink facilities. Thus, the likely result of additional co-primary licensing of the Little LEO services in the 459-460 MHz band is destructive interference to both services. Indeed,

^{6/} The Commission readily admitted that its previous studies which may indicate that such frequency sharing may be feasible did not focus on the 455-456 MHz and 459-460 MHz segments at issue nor did it consider the much heavier incumbent usage in these bands. See, Notice at para. 15.

interference is a principal problem plaguing existing air-ground communications today. Adding Little LEO stations to the frequencies will only intensify that problem.

C. Commission Has Not Shown That Other Less Congested Spectrum Is Unavailable for Little LEO Service

10. Mtel does not dispute the rationale or the need for Little LEO satellite systems. Mtel does submit, however, that the overall demand for Little LEO services has not grown to the extent to justify the allocation to Little LEO services of other heavily used spectrum, particularly in the 459-460 MHz band. As set forth in the Notice at Footnote 9, the 13 airborne mobile channels are allocated in the heart of this spectrum block and the Commission has failed to study what other options exist besides the expropriation of the 459-460 MHz air-ground band. Of course, as well noted throughout the Notice, air-ground is not the only service which depends on these frequencies. Thus, Mtel submits that no rulemaking should be instituted until adequately supported by a showing of the lack of feasible alternatives.

D. Further Spectrum Allocation in the 455-456 MHz and 459-460 MHz Band Would Result in Significant Loss of Investment

11. While the demand for general aviation air-ground services has continued to increase, the service providers and aircraft operators have invested millions of dollars in the equipment necessary to maintain safe and reliable communications. The amount of money invested will have been wasted were the Commission to allow for degradation of service due to interference from the

addition of Little LEO uplinks. This loss would be further heightened due to the lack of a readily available proven air ground communication alternative.

12. Not only does the ground station equipment and aircraft have value but so does the spectrum with which the general aviation air-ground operations are provided. This spectrum will certainly become less valuable as its utility decreases due to increased congestion. The Commission must address how incumbent licensees should be compensated for the decrease in value of their spectrum as well as how these parties can recoup at least a portion of their infrastructure investment should the Commission finally decide to allocate Little LEO operations in the general aviation air ground spectrum band.

V. Conclusion

13. The public today enjoys great benefits from the air-ground service. It is one of the ways in which our modern society allows virtually instantaneous communications between one another. The operation of Little LEO systems in this already congested band would unnecessarily cause the degradation of such a valuable service as air ground when other options are available would disserve the Commission's goals of providing ubiquitous communication service to the public. In view of the above, Mtel opposes the proposal to institute co-primary sharing of the 459-460 MHz band between the existing users of this spectrum including the

air-ground service and the proposed Little LEO service.

In view of the above, Mtel respectfully urges the Commission to abandon its proposal to reallocate spectrum in the 459-460 MHz band to Little LEO operations.

When the Commission "examine[s] the relevant data and articulate[s] a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made",^{1/} and assures that "all the relevant factors and available alternatives [are] given adequate consideration",^{2/} the Commission should agree that the proposal should not be adopted.

Respectfully submitted

**MOBILE TELECOMMUNICATION
TECHNOLOGIES CORP.**

By: 

Thomas Gutierrez
J. Justin McClure

Its Attorneys

Lukas, McGowan, Nace &
Gutierrez, Chartered
1111 Nineteenth Street, N.W.
Suite 1200
Washington, D.C. 20036
(202) 857-3500

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^{1/} Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co., 463 U.S. 29, 43 (1983) (quoting Burlington Truck Lines, Inc. v. United States, 371 U.S. 156, 168 (1962)).

^{2/} Office of Communications of United Church of Christ v. FCC, 707 F.2d 1413, 1426 (D.C. Cir. 1983) ("Church of Christ").